Modeling 201010 Clothianidin NU Cotton Seed Mustard Seed

Clothianidin cotton seed application rate = 0.0633 lb ai / A.

Assumptions:

4500 seeds / pound

81000 seeds / acre

Seed treatment rate = $2.4 \, \text{fl}$ oz / $100,000 \, \text{(cwt)}$ seed; PONCHO /VOTiVO contains $4.17 \, \text{pounds}$ clothianidin per gallon ($40.3\% \, \text{clothianidin}$).

Clothianidin mustard seed application rate = 0.0288 lb ai / A.

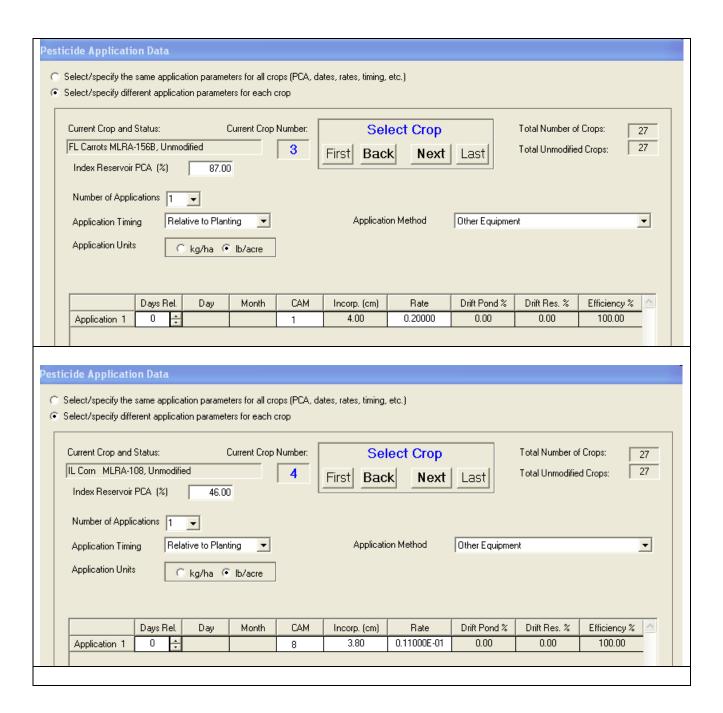
Assumptions:

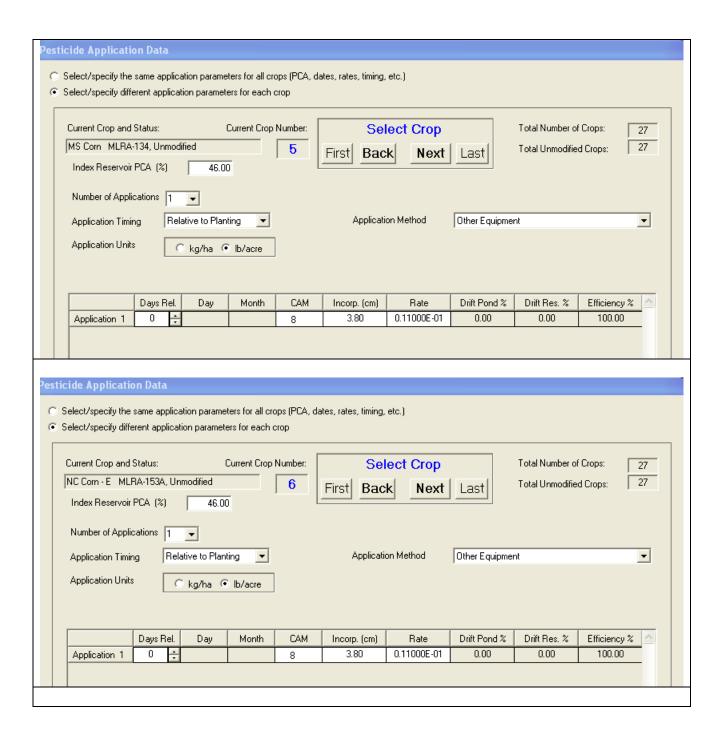
7 lbs seed / acre

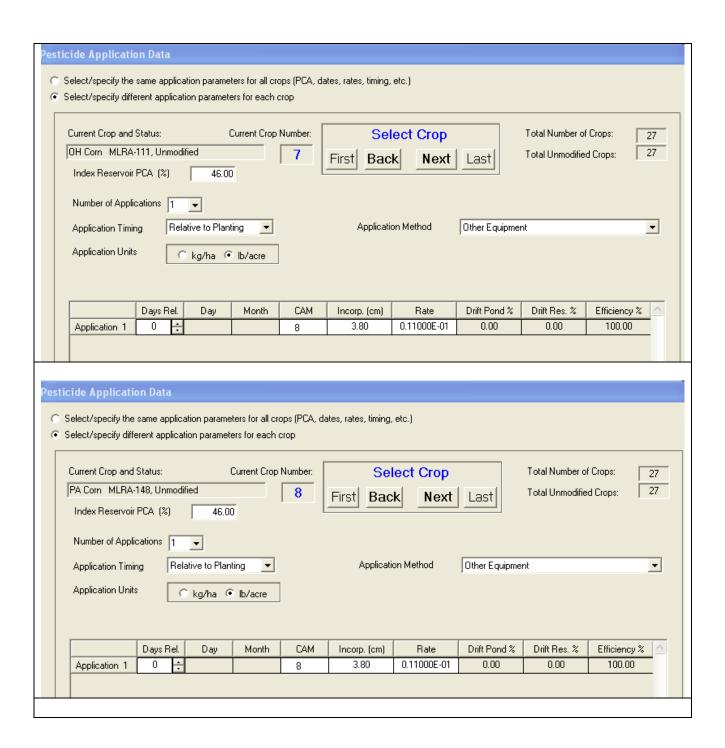
Seed treatment rate = 21.5 fl oz product (0.40 lbs ai) / 100,000 (cwt) seed; Prosper T400 contains 2.38 pounds clothianidin per gallon (21.75% clothianidin).

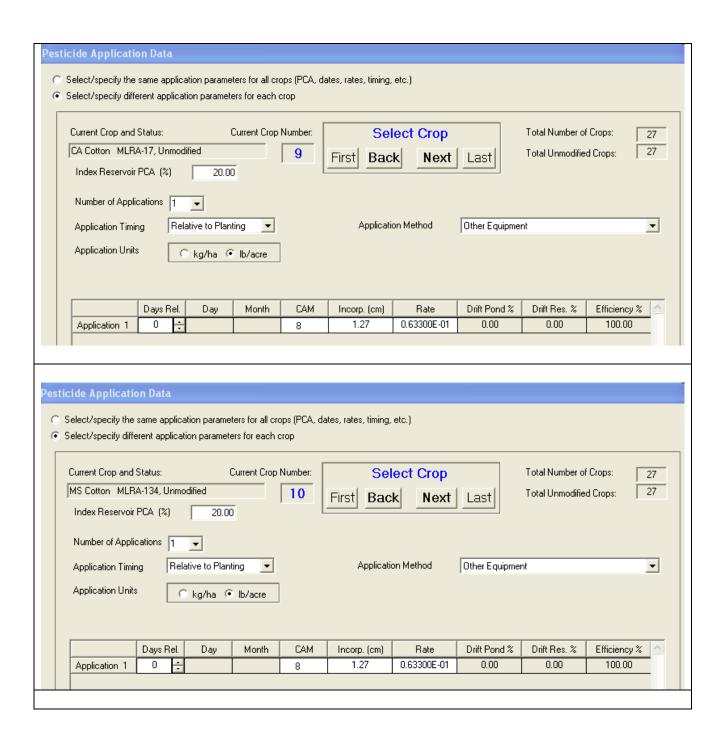
| Day of Application (mm-dd) | CA Cotton = 04-24 MS Cotton = 04-24 NC Cotton = 05-25 ND Canola = 05-09 |
|----------------------------|--|
|----------------------------|--|

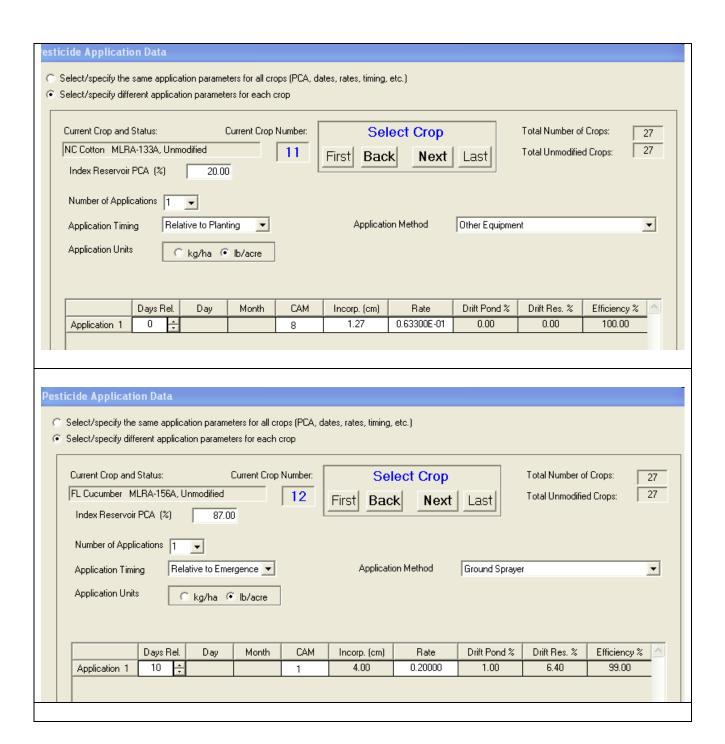
Complete Summary of Pesticide Application Data – CAM 8 + Others EXPRESS Project Updated with new Aerobic Aquatic Metabolism value for input C Select/specify the same application parameters for all crops (PCA, dates, rates, timing, etc.) Select/specify different application parameters for each crop Current Crop and Status: Current Crop Number: Select Crop Total Number of Crops: 27 FL Cabbage MLRA-155, Unmodified 27 Total Unmodified Crops: Back Next Last Index Reservoir PCA (%) 87.00 Number of Applications 1 🔻 Relative to Planting Application Method Ground Sprayer ▼ Application Timing Application Units C kg/ha 🕟 lb/acre Day Drift Pond % Drift Res. % Days Rel. Month CAM Incorp. (cm) Rate Efficiency % 4.00 0.20000 1.00 6.40 99.00 Application 1 C Select/specify the same application parameters for all crops (PCA, dates, rates, timing, etc.) Select/specify different application parameters for each crop Current Crop and Status: Current Crop Number: Total Number of Crops: Select Crop 27 ND Canola MLRA-55A, Unmodified 27 Total Unmodified Crops: 2 First Back Next Last Index Reservoir PCA (%) 87.00 Number of Applications 1 Relative to Planting Application Method Other Equipment ▼ Application Timing Application Units C kg/ha 🕟 lb/acre Efficiency % Days Rel. Month Drift Pond % Drift Res. % Day CAM Incorp. (cm) Rate 100.00 0.28000E-01 0.00 0.00 Application 1 1.27

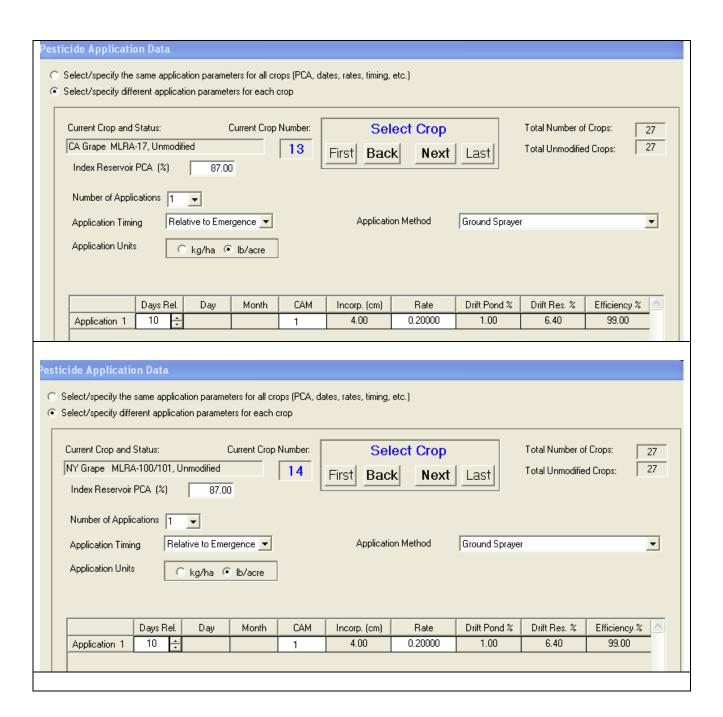


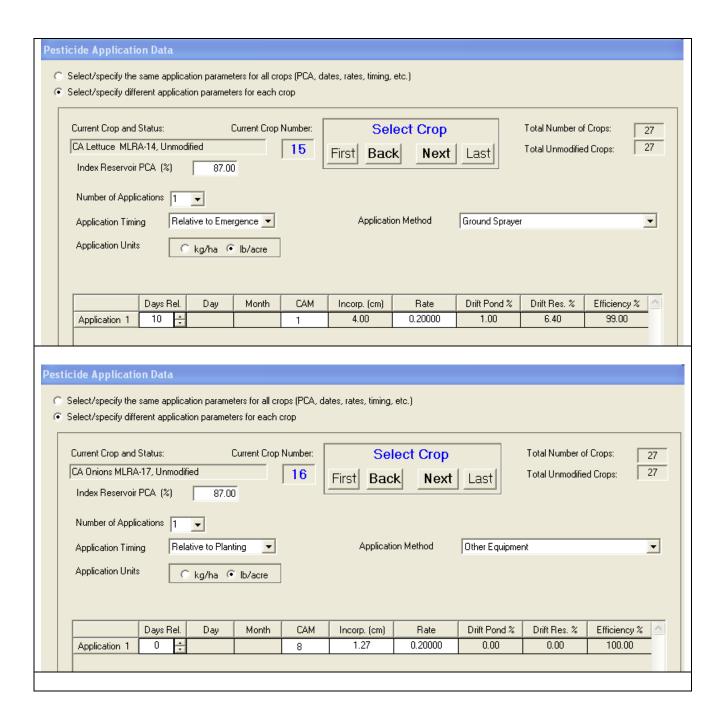


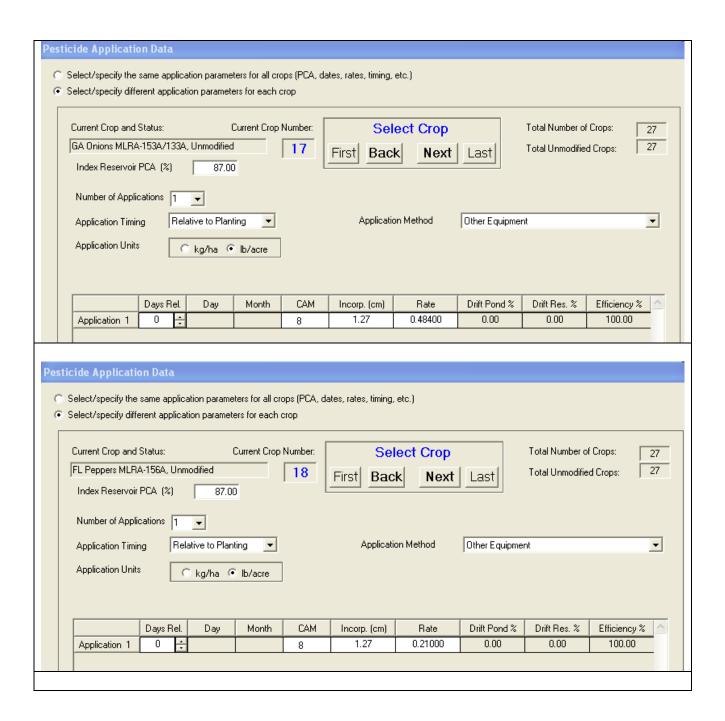


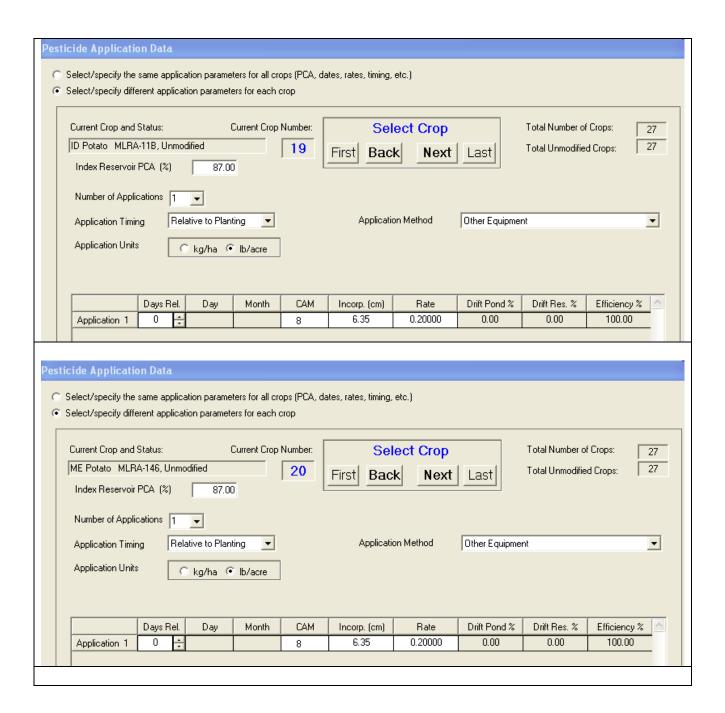


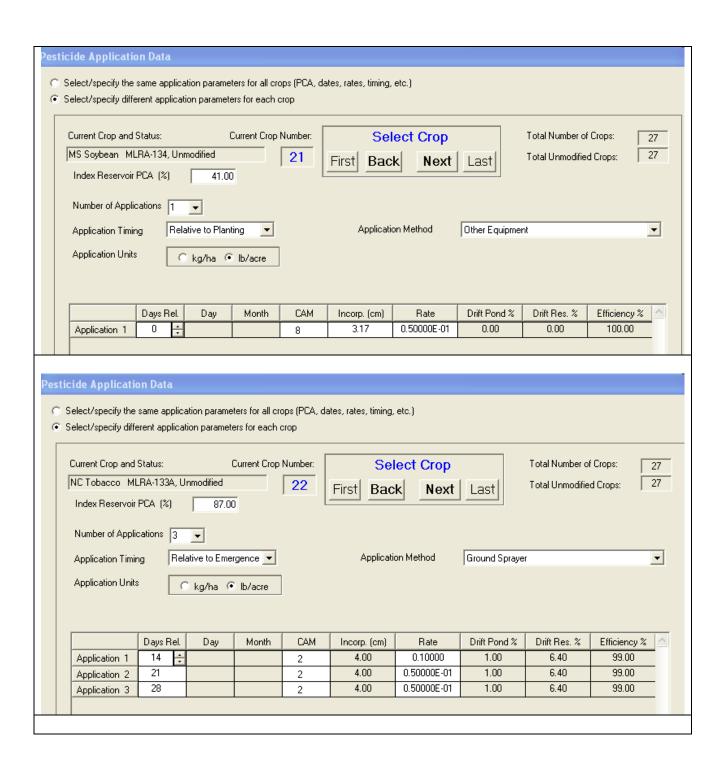


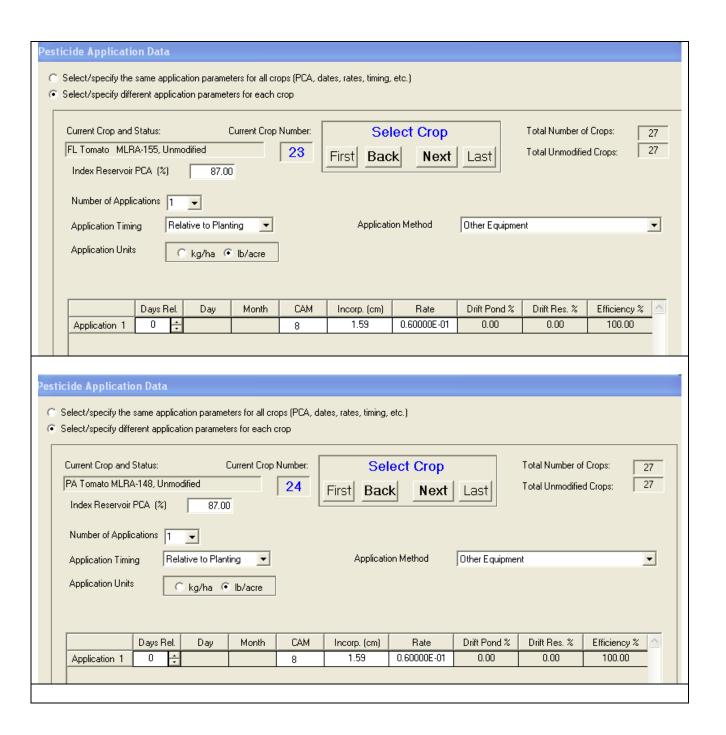


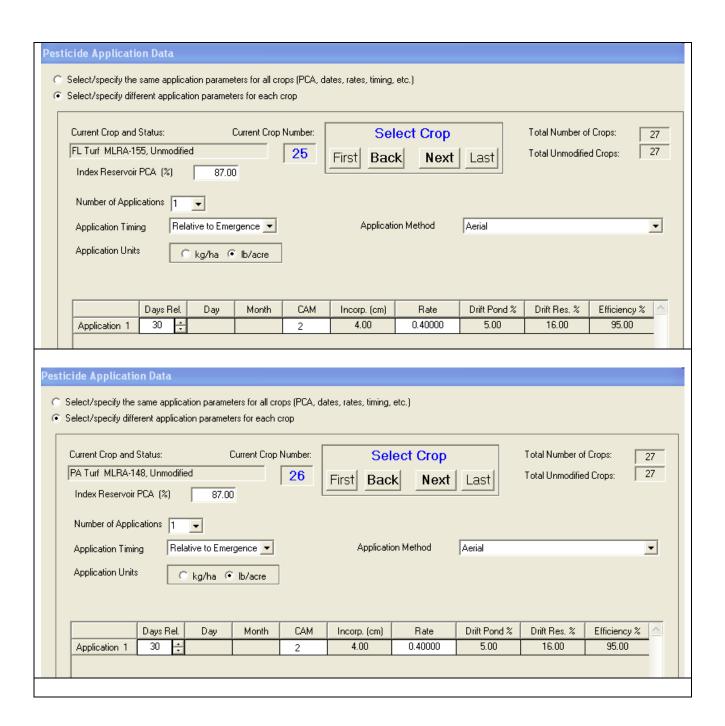


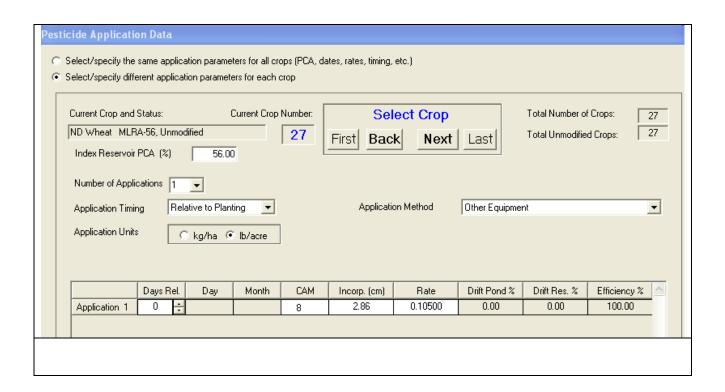












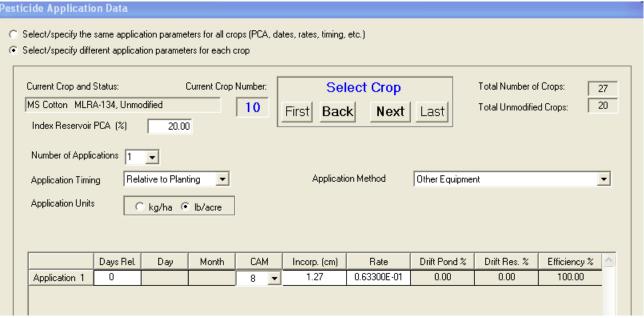


Figure 1. Second set of runs, CAM = 8 (example pesticide application data)

Table 1. . Mostly CAM = 8 plus some CAM = 1 or 2 runs (pond water).

Upper 10th Percentile Limnetic EECs in Farm Pond

Chemical - Clothianidin

| Chemical - Clothlaman | | | | | | | |
|-----------------------|---------------|---------|--------|--------|--------|--------|--|
| Scenarios | Instantaneous | 96-Hour | 21-Day | 60-Day | 90-Day | Annual | |
| RUN ID: FL1Car-P | 17.4 | 17.2 | 16.8 | 15.9 | 14.4 | 9.15 | |
| RUN ID: GA10ni-P | 16.7 | 16.7 | 16.5 | 16.1 | 15.8 | 10.8 | |
| RUN ID: FL1Cuc-P | 10.8 | 10.8 | 10.6 | 10.2 | 8.85 | 6.13 | |
| RUN ID: CA1Let-P | 7.33 | 7.30 | 7.15 | 6.86 | 6.67 | 5.26 | |
| RUN ID: FL1Pep-P | 5.79 | 5.75 | 5.62 | 5.30 | 5.11 | 3.41 | |
| RUN ID: FL1Cbb-P | 5.58 | 5.54 | 5.43 | 5.22 | 4.82 | 3.42 | |
| RUN ID: PA1Tur-P | 4.47 | 4.46 | 4.39 | 4.28 | 4.14 | 3.41 | |
| RUN ID: FL1Tur-P | 3.05 | 3.04 | 2.97 | 2.85 | 2.76 | 2.17 | |
| RUN ID: NY2Gra-P | 2.26 | 2.25 | 2.23 | 2.16 | 2.13 | 1.65 | |
| RUN ID: NC1Ctt-P | 1.57 | 1.55 | 1.53 | 1.48 | 1.45 | 1.15 | |
| RUN ID: MS1Ctt-P | 1.47 | 1.46 | 1,42 | 1.36 | 1.31 | 0.958 | |
| RUN ID: CA1Gra-P | 1.11 | 1.10 | 1.08 | 1.02 | 0.993 | 0.701 | |
| RUN ID: NC1Tba-P | 0.983 | 0.977 | 0.955 | 0.935 | 0.916 | 0.693 | |
| RUN ID: CA10ni-P | 0.529 | 0.526 | 0.515 | 0.492 | 0.478 | 0.360 | |
| RUN ID: FL1Tma-P | 0.525 | 0.521 | 0.505 | 0.483 | 0.472 | 0.339 | |
| RUN ID: PA1Tma-P | 0.399 | 0.397 | 0.389 | 0.375 | 0.364 | 0.302 | |
| RUN ID: ND1Cno-P | 0.259 | 0.258 | 0.254 | 0.244 | 0.238 | 0.191 | |
| RUN ID: CA1Ctt-P | 0.143 | 0.143 | 0.142 | 0.139 | 0.137 | 0.112 | |
| RUN ID: IL1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: MS1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: NC1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: OH1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: PA1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: ID1Pot-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: ME1Pot-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: MS1Syb-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: ND1Whe-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

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Table 2. Mostly CAM = 8 plus some CAM = 1 or 2 runs (pond benthic).

Upper 10th Percentile Benthic EECs in Farm Pond

Chemical - Clothianidin

| Crienical - Clothanidin | | | | | | | |
|-------------------------|---------------|---------|--------|--------|--------|-----------|--|
| Scenarios | Instantaneous | 96-Hour | 21-Day | 60-Day | 90-Day | Annual | |
| RUNID: GA10ni-P | 11.8 | 11.8 | 11.8 | 11.1 | 9.97 | 7.30 | |
| RUN ID: FL1Car-P | 9.47 | 9.46 | 9.38 | 9.14 | 8.81 | 6.46 | |
| RUNID: FL1Cuc-P | 6.05 | 6.03 | 5.77 | 5.48 | 5.42 | 4.21 | |
| RUNID: CA1Let-P | 4.67 | 4.67 | 4.66 | 4.64 | 4.62 | 3.96 | |
| RUNID: FL1Cbb-P | 3.45 | 3.45 | 3.44 | 3.14 | 2.80 | 2.22 | |
| RUNID: FL1Pep-P | 3.12 | 3.12 | 3.11 | 3.05 | 2.98 | 2.11 | |
| RUNID: PA1Tur-P | 2.85 | 2.85 | 2.84 | 2.81 | 2.77 | 2.62 | |
| RUNID: NY2Gra-P | 1.89 | 1.87 | 1.80 | 1.65 | 1.60 | 1.38 | |
| RUNID: FL1Tur-P | 1.82 | 1.82 | 1.82 | 1.80 | 1.77 | 1.47 | |
| RUNID: NC1Ctt-P | 0.999 | 0.999 | 0.999 | 0.997 | 0.988 | 0.844 | |
| RUNID: MS1Ctt-P | 0.810 | 0.810 | 0.808 | 0.801 | 0.791 | 0.694 | |
| RUNID: CA1Gra-P | 0.600 | 0.600 | 0.600 | 0.591 | 0.578 | 0.443 | |
| RUNID: NC1Tba-P | 0.584 | 0.584 | 0.584 | 0.582 | 0.578 | 0.510 | |
| RUNID: CA10ni-P | 0.323 | 0.323 | 0.322 | 0.318 | 0.315 | 0.241 | |
| RUNID: FL1Tma-P | 0.288 | 0.288 | 0.287 | 0.283 | 0.279 | 0.216 | |
| RUN ID: PA1Tma-P | 0.284 | 0.284 | 0.284 | 0.282 | 0.278 | 0.221 | |
| RUNID: ND1Cno-P | 0.173 | 0.173 | 0.173 | 0.172 | 0.171 | 0.152 | |
| RUNID: CA1Ctt-P | 0.109 | 0.109 | 0.109 | 0.109 | 0.107 | 0.710E-01 | |
| RUN ID: IL1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUNID: MS1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUNID: NC1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUNID: OH1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUNID: PA1Cor-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: ID1P ot-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: ME1Pot-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUNID: MS1Syb-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| RUN ID: ND1Whe-P | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | | | | | | | |

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Table 3. Mostly CAM = 5 plus some CAM = 1 or 2 runs (pond water).

Upper 10th Percentile Limnetic EECs in Farm Pond

Chemical - Clothianidin

| | 1 | | micai - Cio | | 00.0 | |
|------------------|---------------|-----------|-------------|-----------|-----------|-----------|
| Scenarios | Instantaneous | 96-Hour | 21-Day | 60-Day | 90-Day | Annual |
| RUN ID: GA10ni-F | 31.4 | 31.2 | 30.6 | 29.3 | 27.9 | 18.6 |
| RUN ID: FL1Car-P | 17.4 | 17.2 | 16.8 | 15.9 | 14.4 | 9.15 |
| RUN ID: FL1Cuc-F | 10.8 | 10.8 | 10.6 | 10.2 | 8.85 | 6.13 |
| RUN ID: FL1Pep-F | 10.6 | 10.6 | 10.4 | 9.85 | 9.44 | 6.06 |
| RUN ID: CA1Let-P | 7.33 | 7.30 | 7.15 | 6.86 | 6.67 | 5.26 |
| RUN ID: FL1Cbb-F | 5.58 | 5.54 | 5.43 | 5.22 | 4.82 | 3.42 |
| RUN ID: PA1Tur-P | 4.47 | 4.46 | 4.39 | 4.28 | 4.14 | 3.41 |
| RUN ID: FL1Tur-P | 3.05 | 3.04 | 2.97 | 2.85 | 2.76 | 2.17 |
| RUN ID: NC1Ctt-P | 3.00 | 2.98 | 2.91 | 2.82 | 2.76 | 2.18 |
| RUNID: M\$1Ctt-P | 2.80 | 2.78 | 2.74 | 2.62 | 2.53 | 1.85 |
| RUN ID: NY2Gra-F | 2.26 | 2.25 | 2.23 | 2.16 | 2.13 | 1.65 |
| RUN ID: FL1Tma-F | 1.15 | 1.14 | 1.11 | 1.07 | 1.06 | 0.829 |
| RUN ID: CA1Gra-F | 1.11 | 1.10 | 1.08 | 1.02 | 0.993 | 0.701 |
| RUN ID: MS1Syb-I | 1.07 | 1.07 | 1.05 | 1.01 | 0.976 | 0.708 |
| RUN ID: CA10ni-F | 1.07 | 1.06 | 1.04 | 0.997 | 0.967 | 0.729 |
| RUN ID: PA1Tma- | P 0.998 | 0.998 | 0.978 | 0.943 | 0.916 | 0.759 |
| RUN ID: NC1Tba- | 0.983 | 0.977 | 0.955 | 0.935 | 0.916 | 0.693 |
| RUN ID: ND1Whe- | 0.796 | 0.793 | 0.782 | 0.770 | 0.757 | 0.629 |
| RUN ID: ND1Cno- | 0.491 | 0.488 | 0.480 | 0.462 | 0.450 | 0.367 |
| RUN ID: CA1Ctt-P | 0.310 | 0.309 | 0.306 | 0.300 | 0.296 | 0.224 |
| RUN ID: ME1Pot-P | 0.265 | 0.265 | 0.264 | 0.260 | 0.258 | 0.214 |
| RUN ID: MS1Cor-F | 0.152 | 0.151 | 0.148 | 0.141 | 0.137 | 0.106 |
| RUN ID: IL1Cor-P | 0.672E-01 | 0.668E-01 | 0.663E-01 | 0.641E-01 | 0.623E-01 | 0.508E-01 |
| RUN ID: OH1Cor-F | 0.556E-01 | 0.553E-01 | 0.539E-01 | 0.524E-01 | 0.510E-01 | 0.438E-01 |
| RUN ID: PA1Cor-F | 0.369E-01 | 0.367E-01 | 0.362E-01 | 0.351⊑-01 | 0.344E-01 | 0.302E-01 |
| RUN ID: ID1Pot-P | 0.313E-01 | 0.312E-01 | 0.311E-01 | 0.306E-01 | 0.303E-01 | 0.228E-01 |
| RUN ID: NC1Cor-F | 0.305E-01 | 0.304E-01 | 0.302E-01 | 0.296E-01 | 0.292E-01 | 0.224E-01 |

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Table 4. Mostly CAM = 5 plus some CAM = 1 or 2 runs (pond benthic).

Upper 10th Percentile Benthic EECs in Farm Pond

Chemical - Clothianidin

| | | CHE | illical - Cic | unamun | | |
|------------------|---------------|-----------|---------------|-----------|-----------|-----------|
| Scenarios | Instantaneous | 96-Hour | 21-Day | 60-Day | 90-Day | Annual |
| RUN ID: GA10ni-P | 20.8 | 20.8 | 20.7 | 19.5 | 17.4 | 12.5 |
| RUN ID: FL1Car-P | 9.47 | 9.46 | 9.38 | 9.14 | 8.81 | 6.46 |
| RUN ID: FL1Cuc-P | 6.05 | 6.03 | 5.77 | 5.48 | 5.42 | 4.21 |
| RUN ID: FL1Pep-P | 5.78 | 5.78 | 5.75 | 5.64 | 5.52 | 3.81 |
| RUN ID: CA1Let-P | 4.67 | 4.67 | 4.66 | 4.64 | 4.62 | 3.96 |
| RUN ID: FL1Cbb-P | 3.45 | 3.45 | 3.44 | 3.14 | 2.80 | 2.22 |
| RUN ID: PA1Tur-P | 2.85 | 2.85 | 2.84 | 2.81 | 2.77 | 2.62 |
| RUN ID: NC1Ctt-P | 1.90 | 1.89 | 1.89 | 1.88 | 1.86 | 1.62 |
| RUN ID: NY2Gra-P | 1.89 | 1.87 | 1.80 | 1.65 | 1.60 | 1.38 |
| RUN ID: FL1Tur-P | 1.82 | 1.82 | 1.82 | 1.80 | 1.77 | 1.47 |
| RUN ID: MS1Ctt-P | 1.58 | 1.58 | 1.58 | 1.56 | 1.54 | 1.36 |
| RUN ID: FL1Tma-P | 0.766 | 0.766 | 0.764 | 0.753 | 0.743 | 0.573 |
| RUN ID: PA1Tma-F | 0.717 | 0.717 | 0.717 | 0.711 | 0.708 | 0.573 |
| RUN ID: CA10ni-P | 0.657 | 0.657 | 0.657 | 0.650 | 0.643 | 0.492 |
| RUN ID: MS1Syb-P | 0.609 | 0.609 | 0.607 | 0.601 | 0.592 | 0.451 |
| RUN ID: CA1Gra-P | 0.600 | 0.600 | 0.600 | 0.591 | 0.578 | 0.443 |
| RUN ID: NC1Tba-P | 0.584 | 0.584 | 0.584 | 0.582 | 0.578 | 0.510 |
| RUN ID: ND1Whe-f | 0.581 | 0.581 | 0.580 | 0.577 | 0.575 | 0.510 |
| RUN ID: ND1Cno-F | 0.332 | 0.332 | 0.332 | 0.330 | 0.329 | 0.293 |
| RUN ID: CA1Ctt-P | 0.216 | 0.216 | 0.216 | 0.214 | 0.212 | 0.151 |
| RUN ID: ME1Pot-P | 0.205 | 0.205 | 0.205 | 0.204 | 0.202 | 0.167 |
| RUN ID: MS1Cor-P | 0.932E-01 | 0.930E-01 | 0.925E-01 | 0.908E-01 | 0.888E-01 | 0.766E-01 |
| RUN ID: IL1Cor-P | 0.432E-01 | 0.432E-01 | 0.432E-01 | 0.430E-01 | 0.428E-01 | 0.385E-01 |
| RUN ID: OH1Cor-P | 0.394E-01 | 0.394E-01 | 0.394E-01 | 0.391E-01 | 0.385E-01 | 0.311E-01 |
| RUN ID: PA1Cor-P | 0.266E-01 | 0.266E-01 | 0.265E-01 | 0.262E-01 | 0.258E-01 | 0.227E-01 |
| RUN ID: ID1Pot-P | 0.222E-01 | 0.222E-01 | 0.222E-01 | 0.220E-01 | 0.217E-01 | 0.171E-01 |
| RUN ID: NC1Cor-P | 0.188E-01 | 0.188E-01 | 0.187E-01 | 0.185E-01 | 0.182E-01 | 0.164E-01 |

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